

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

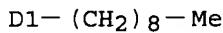
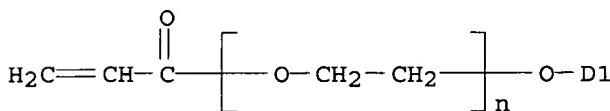
IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
 RN 50974-47-5 REGISTRY
 CN Poly(oxy-1,2-ethanediyl), .alpha.- (1-oxo-2-propenyl) -.omega.-
 (nonylphenoxy) - (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN 560A
 CN Antox NA 16
 CN Aronix M 111
 CN CD 504
 CN Ethoxylated nonylphenol acrylate
 CN Light Acrylate NP 12EA
 CN Light Acrylate NP 4EA
 CN Light Acrylate NP 8EA
 CN NA 14AC
 CN NK Ester NPA 5E
 CN Nonylphenol ethoxylate acrylate
 CN Photomer 4003
 CN Poly(ethylene oxide) nonylphenyl ether acrylate
 CN Polyethylene glycol nonylphenyl ether acrylate
 CN RMA 506
 CN SN 5X1626
 CN SR 504
 CN SR 504A
 CN SR 504D
 DR 173046-07-6, 126830-47-5, 121240-41-3, 94469-14-4, 102069-08-9,
 50975-72-9, 114836-41-8, 114836-42-9, 37263-48-2, 156671-85-1, 183146-85-2
 MF (C₂ H₄ O)_n C₁₈ H₂₆ O₂
 CI IDS, PMS, COM
 PCT Polyether
 LC STN Files: CA, CAPLUS, CHEMCATS, CHEMLIST, IFICDB, IFIPAT, IFIUDB,
 TOXCENTER, USPAT2, USPATFULL
 Other Sources: NDSL**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

Ring System Data

| Elemental Analysis | Elemental Sequence | Size of the Rings | Ring System Formula | Ring Identifier | RID Occurrence |
|--------------------|--------------------|-------------------|---------------------|-----------------|----------------|
| EA | ES | SZ | RF | RID | Count |
| C6 | C6 | 6 | C6 | 46.150.18 | 1 |



129 REFERENCES IN FILE CA (1957 TO DATE)
 31 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 129 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1

AN 138:370306 CA
TI Integrated approach to studying the development and final network properties of urethane acrylate coatings
AU Gasper, Susan M.; Schissel, David N.; Baker, Linda S.; Smith, Diane L.; Youngman, Randoll E.; Wu, Lung-Ming; Sonner, Susan M.; Givens, Steven R.; Hancock, Robert R.
CS Science & Technology, Corning Incorporated, Corning, NY, 14831, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 27-28
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal; (computer optical disk)
LA English
CC 42-3 (Coatings, Inks, and Related Products)
Section cross-reference(s): 35
AB Network development in model UV-curable polyurethane acrylate coatings (with 2 different acrylate co-monomers) was monitored using FTIR and UV rheol. kinetic measurements, anal. of monomers and higher-mol.-wt. extractables by HPLC and GPC, and NMR.
ST polyurethane acrylate coating crosslinking kinetics property
IT Coating materials
Crosslink density
Crosslinking kinetics
Viscosity
(crosslinking kinetics development and final properties of polyurethane acrylate coatings)
IT Polyurethanes, uses
RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(polyoxyalkylene-, block, acrylates; crosslinking kinetics development and final properties of polyurethane acrylate coatings)
IT 50974-47-5, Photomer 4003 54398-08-2, Photomer 8061
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(crosslinking kinetics development and final properties of polyurethane acrylate coatings)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Andrzejewska, E; Prog Polym Sci 2001, V26, P605 CAPLUS
(2) Anseth, K; Macromolecules 1995, V28, P4040 CAPLUS
(3) Baker, L; Unpublished work 2002
(4) Billmeyer, F; Textbook of Polymer Science 1962
(5) Decker, C; Makromol Chem 1988, V189, P2381 CAPLUS
(6) Hoyle, C; Radiation Curing: Science and Technology 1992, P57 CAPLUS
(7) Lee, S; Prog Org Coat 2000, V38, P193 CAPLUS
(8) Litvinov, V; Macromolecules 2001, V34, P4051 CAPLUS
(9) Oh, S; J Poly Sci B 2000, V38, P1417 CAPLUS
(10) Youngman, R; Polym Prepr (Am Chem Soc, Div Polym Chem), in press

REFERENCE 2

AN 138:346386 CA
TI Development of high-performance normal mode type (polymer/liquid crystal) composite films using UV curable monomers
AU Hasuo, Haruumi; Yamaguchi, Masahiro; Gunjima, Tomoki; Rajesh, Kumar; Yang, Huai; Kimura, Reiko; Amaya, Naoyuki; Kaiya, Norihiro; Kikuchi, Hirotsugu; Kajiyama, Tisato
CS Chem. Textile Res. Inst., Fukuoka Ind. Technol. Cent., Chikushino, 818-8540, Japan
SO Kenkyu Hokoku - Fukuoka-ken Kogyo Gijutsu Senta (2002), Volume Date 2001, 12, 14-17
CODEN: KFKSEH; ISSN: 0916-8230
PB Fukuoka-ken Kogyo Gijutsu Senta
DT Journal

LA Japanese
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38, 75, 76
AB The driving voltage, steepness (.gamma.) and contrast of the titled film are very important elec. optical properties, which depend on the properties of both the liq. crystal and the UV curable monomer used. And to obtain large liq. crystal composite film using rolls, the temp. of polymn. is required to be ca. 40.degree.. By mixing TL213 as liq. crystal, 3,3,5-trimethylhexylacrylate (TMHA) as a monomer and 1,6-hexanedioldivinylether (HDDVE) as a crosslinking reagent; TL213/TMHA/HDDVE = 80/14/6, and polymg. under 40.degree.-50 s/25 mWcm⁻², an excellent film can be obtained: driving voltage 7 V, steepness .gamma. = 1.31, the temp. of transparency T_c = 10.degree..
ST polymer liq crystal composite film photopolymerizable monomer;
electrooptical property polymer liq crystal composite film
IT Electrooptical effect
Liquid crystals, polymeric
UV radiation
(development of high-performance normal mode-type polymer/liq. crystal composite films using UV curable monomers)
IT 103-11-7DP, 2-Ethylhexyl acrylate, polymer with liq. crystal mixt.
999-61-1DP, 2-Hydroxypropyl acrylate, polymer with liq. crystal mixt.
1070-70-8DP, 1,4-Butanedioldiacrylate, polymer with liq. crystal mixt.
4813-57-4DP, Stearyl acrylate, polymer with liq. crystal mixt.
9004-74-4DP, Methoxy polyethylene glycol, polymer with liq. crystal mixt.
13048-33-4DP, 1,6-Hexanediol diacrylate, polymer with liq. crystal mixt.
26570-48-9DP, Polyethylene glycol diacrylate, polymer with liq. crystal mixt. 29590-42-9DP, Isooctyl acrylate, polymer with liq. crystal mixt.
45125-03-9DP, 3,5,5-Trimethylhexyl acrylate, polymer with liq. crystal mixt. 50974-47-5DP, polymer with liq. crystal mixt. 56641-05-5DP, Phenoxypropolyethylene glycol acrylate, polymer with liq. crystal mixt.
164716-12-5DP, Licrilite TL 205, polymer with 1,4-butanediol diacrylate and lauryl acrylate 336128-50-8DP, 3,5-Difluorobenzyl acrylate, polymer with liq. crystal mixt.
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(development of high-performance normal mode-type polymer/liq. crystal composite films using UV curable monomers)

REFERENCE 3

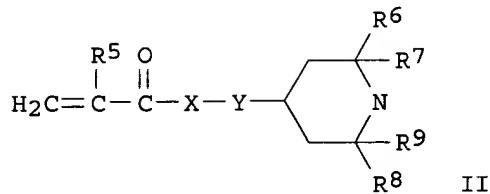
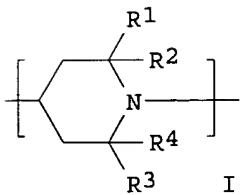
AN 138:322717 CA
TI Evaluating cross-link density in model polyurethane acrylate coatings with ¹H and ¹³C NMR relaxation measurements
AU Youngman, Randall E.; Schissel, David N.; Gasper, Susan M.
CS Science & Technology, Corning Incorporated, Corning, NY, 14831, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 350-351
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal; (computer optical disk)
LA English
CC 42-4 (Coatings, Inks, and Related Products)
AB Various NMR parameters are sensitive to the local mobility of structural units in solid polymer coatings. One of the greatest impacts on such dynamic processes is the extent of crosslinking that can be controlled during formulation and curing of the polymer. The sensitivity of proton T₂ relaxation times and cross-polarization rate consts. (TCP) was evaluated for a series of UV-cured polyurethane acrylate oligomer films contg. a variety of polyol block sizes and therefore different cross-link densities. Changes in co-monomer type and the resulting influence on these measurements will also be presented.
ST crosslink density acrylic polyurethane polyoxyalkylene coating NMR

IT relaxation
 IT Polyurethanes, uses
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (acrylic-polyoxyalkylene-; evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
 IT Coating materials
 Crosslink density
 Spin-spin relaxation
 (evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
 IT 50974-47-5, Photomer 4003 54398-08-2, Photomer 8061
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (coating component; evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
 IT 184649-96-5, Irgacure 1850
 RL: CAT (Catalyst use); USES (Uses)
 (evaluating cross-link d. in model polyurethane acrylate coatings with 1H and 13C NMR relaxation measurements)
 RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
 (1) Axelson, D; J Poly Sci B 1999, V37, P1307 CAPLUS
 (2) Beckmann, P; J Magn Reson 2000, V146, P379 CAPLUS
 (3) Borgia, G; Magnetic Resonance Imaging 2001, V19, P405 CAPLUS
 (4) Knorgen, M; Polymer 2002, V43, P4091 CAPLUS
 (5) Kolodziejjski, W; Chem Rev 2002, V102, P613 CAPLUS
 (6) Litvinov, V; Macromolecules 2001, V34, P4051 CAPLUS
 (7) Marcinko, J; Appl Poly Sci 1992, V45, P391 CAPLUS
 (8) Marcinko, J; J Appl Poly Sci 1994, V51, P1777 CAPLUS
 (9) McConnell, J; ACS Symp Ser 1990, V417, P272 CAPLUS
 (10) Menge, H; Polymer 2000, V41, P3019 CAPLUS
 (11) Oh, S; J Poly Sci B 2000, V38, P1417 CAPLUS
 (12) Santhana, P; J Macromol Sci Rev Macromol Chem Phys 1993, VC33(2), P147

REFERENCE 4

AN 138:311577 CA
 TI Negative photopolymer compositions, photosensitive elements involving resist layers of the compositions, their patterning, and fabrication of printed wiring boards thereof
 IN Aoki, Tomoaki; Ootomo, Satoshi; Kajiwara, Takuya
 PA Hitachi Chemical Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS C08F002-44; C08F291-00; H05K003-06; H05K003-18
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38, 76
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2003114521 | A2 | 20030418 | JP 2002-113572 | 20020416 |
| PRAI | JP 2001-237019 | | 20010803 | | |
| GI | | | | | |



AB The compns., having good producibilty, developability, and adhesion strength contain (A) binder polymers, (B) photopolymerizable compds. bearing .gtoreq.1 polymerizable ethylenically unsatd. bonds, (C) photopolymn. initiators, and (D) hinderedamines as thermal stabilizers. Preferably, D have piperidine backbones represented by general formula I ($\text{R}^1-\text{R}^4 = \text{C}1-20$ alkyl), more preferably, II ($\text{R}^5 = \text{H}, \text{Me}; \text{X} = \text{O}, \text{NH}; \text{Y} = \text{C}0-10$ alkylene, C2-6 alkyleneoxy; $\text{R}^10 = \text{C}1-20$ alkyl; $\text{R}^6-\text{R}^9 = \text{C}1-20$ alkyl). Preferably, C comprises 2,4,5-triarylimidazole dimer or its derivs. The photosensitive elements comprise supports disposed thereon resist layers of the compns, and optionally protection films. Resist patterns are formed by (i) laminating resist layers on substrates, (ii) imagewise irradn. of actinic ray for photocure of the irradiated sites of the resist layers, and (iii) development and selective removal of unirradiated sites of the resist layers. Printed wiring boards (PWB) are manufd. by (i) laminating the resist layers on layers to be processed and disposed on substrates, (ii) imagewise irradn. of actinic ray for photocure of the irradiated sites of the resist layers, (iii) development and selective removal of unirradiated sites of the resist layers, and (iv) (selective) etching of the layers to be processed by using the resist patterns as masks. Preferably, the lamination step (i) in formation of resist patterns and PWB fabrication is done by bringing the resist layers of the photosensitive elements in tight adhesion with the substrates.

ST neg photoresist compn hinderedamine thermal stabilizer; printed circuit board manuf neg photoresist

IT Epoxy resins, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (glass fiber-reinforced; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Amines, reactions
 RL: MOA (Modifier or additive use); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (hindered, ethylenically unsatd. group-contg., thermal stabilizers; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Amines, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (hindered, thermal stabilizer; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Heat stabilizers
 (hinderedamines; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Negative photoresists
 Printed circuits
 (neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT Polyesters, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (support film; neg. photopolymer compns. for resists, their

photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 28263-96-9, Ethyl acrylate-methacrylic acid-methyl methacrylate-styrene copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (binder; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 90-93-7, 4,4'-Bis(diethylamino)benzophenone 6143-80-2,
 2-(o-Chlorophenyl)-4,5-diphenylimidazole dimer
 RL: CAT (Catalyst use); USES (Uses)
 (neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 41637-38-1, BPE 500 50974-47-5, Light Acrylate NP 8EA 52496-08-9, NK Ester APG 400
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 148195-40-8, MCL-E 61
 RL: TEM (Technical or engineered material use); USES (Uses)
 (neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 25038-59-9, GS 16, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (support film; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 52829-07-9, Sanol LS 770
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (thermal stabilizer; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

IT 68548-08-3, Fancryl FA 711MM
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (thermal stabilizer; neg. photopolymer compns. for resists, their photosensitive elements, patterning of resists, and fabrication of printed wiring boards thereof)

REFERENCE 5

AN 138:262706 CA
 TI Photosensitive element and resist pattern formation using it
 IN Murakami, Taiji
 PA Hitachi Chemical Co., Ltd., Japan
 SO Jpn. Kokai Tokyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS G03F007-027; H05K003-06; H05K003-18
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 37
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|----------|
| PI JP 2003098663 | A2 | 20030404 | JP 2001-289570 | 20010921 |
| PRAI JP 2001-289570 | | 20010921 | | |

AB The element, comprising a base film coated with a photosensitive resin layer, is characterized by that (1) the layer comprises a binder polymer, a photopolymerizable compd. with .gtoreq.1 ethylenic unsatd. bond in a mol., and a photopolymn. initiator, and (2) the layer has absorbance 0.15-0.8 at 365 nm light. The element is exposed with light and developed to give resist pattern. The element shows rapid polymn. and gives high resln. images by UV laser exposure, and is useful for manuf. of printed circuit board.
 ST photosensitive resist ethylenic unsatd compd; absorbance photosensitive resist
 IT Photoresists
 (absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)
 IT 50974-47-5, Light Acrylate NP 8EA
 RL: TEM (Technical or engineered material use); USES (Uses)
 (NP 8EA; absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)
 IT 103-01-5, N-Phenylglycine 1707-68-2, 2,2'-Bis(o-chlorophenyl)-4,4',5,5'-tetraphenylbisimidazole 54537-15-4, Diethylaminobenzophenone 84563-54-2, BBI 105
 RL: CAT (Catalyst use); USES (Uses)
 (absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)
 IT 25300-85-0, Ethyl methacrylate-methacrylic acid-styrene copolymer 41637-38-1, BPE 500 52496-08-9, APG 400
 RL: TEM (Technical or engineered material use); USES (Uses)
 (absorbance-controlled photoresist compn. contg. binder, unsatd. compd., and polymn. initiator)

REFERENCE 6

AN 138:201280 CA
 TI Microplate with varing physical property, and its production method
 IN Takada, Akio; Teramae, Atsushi; Anazawa, Takanori
 PA Kawamura Institute of Chemical Research, Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G01N033-48
 ICS C08J007-04; G01N001-00; C08L101-00
 CC 9-1 (Biochemical Methods)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2003066033 | A2 | 20030305 | JP 2001-252781 | 20010823 |
| PRAI | JP 2001-252781 | | 20010823 | | |

AB Several types of microplates possessing varying phys. properties are provided: a microplate, with which it is easy to miniaturize its wells, and the surface of wells is provided with a hydrophilic property for lowering the adsorption of a biol. component; a microplate, with which the surface of wells is provided conversely with a hydrophobic property for adsorbing or covalently binding a target protein such as an antigen; and a microplate, with which an aq. soln. hardly overflows to the outside due to its hydrophilic well bottom part and hydrophobic well wall part. A convenient method for producing these microplates is also provided. These microplates are characterized in that a large no. of wells, concave parts for accommodating samples, are created in rows on a base material, and at least one of the well bottom part and the well wall part consists of a hardened material of an active energy ray-hardenable resin compn.
 ST microplate resin radiation hardening hydrophilicity hydrophobicity
 IT Polymers, uses
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(active energy ray-hardenable; microplate with varing phys. property, and its prodn. method)

IT Adsorption
 Biochemical molecules
 Hydrophilicity
 Hydrophobicity
 Liquid-solid interface
 Microtiter plates
 Physical properties
 Solutions
 UV radiation
 (microplate with varing phys. property, and its prodn. method)

IT Antigens
 RL: ANT (Analyte); ARG (Analytical reagent use); CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process); USES (Uses)
 (microplate with varing phys. property, and its prodn. method)

IT Proteins
 RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)
 (microplate with varing phys. property, and its prodn. method)

IT Crosslinking
 (radiochem.; microplate with varing phys. property, and its prodn. method)

IT 13048-33-4 27905-45-9 50974-47-5 52628-03-2, P 2M 160299-80-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (microplate with varing phys. property, and its prodn. method)

REFERENCE 7

AN 138:171962 CA
 TI Thermoplastic elastomer coating on optical fibers or waveguides
 IN Fabian, Michelle D.; Fewkes, Edward J.; Jacobs, Gregory F.; Kouzmina, Inna I.; Sorensen, Michael L.; Wagner, Frederic C.
 PA Corning Incorporated, USA
 SO PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C03C025-00
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 57, 73

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 2003011787 | A2 | 20030213 | WO 2002-US19049 | 20020617 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| PRAI | US 2003053782 | A1 | 20030320 | US 2001-917459 | 20010727 |
| AB | Curable coating compns. for coating optical fibers are described which includes .gtoreq.1 reactive monomer and a block copolymer comprising .gtoeq.1 hard block and .gtoeq.1 soft block, wherein the hard block has a Tg greater than the Tg of the soft block. Methods for making coated optical fibers are described which entail providing an optical fiber; coating the optical fiber with the curable coating compn., and polymg. the compn. under conditions effective to form a coating over the optical | | | | |

fiber. Coated optical fibers are also described which have .gtoreq.1
coating layer contg. the cured polymers.

ST thermoplastic elastomer optical fiber coating

IT Isoprene-styrene rubber
Styrene-butadiene rubber, uses
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(block, triblock, coating compns. contg.; thermoplastic elastomer
coating compns. for optical fibers and methods for coating the fibers
and the coated fibers)

IT Styrene-butadiene rubber, uses
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(hydrogenated, block, triblock, maleated, coating compns. contg.;
thermoplastic elastomer coating compns. for optical fibers and methods
for coating the fibers and the coated fibers)

IT Coating materials
Coating process
Optical fibers
(thermoplastic elastomer coating compns. for optical fibers and methods
for coating the fibers and the coated fibers)

IT Thermoplastic rubber
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(thermoplastic elastomer coating compns. for optical fibers and methods
for coating the fibers and the coated fibers)

IT 1330-61-6, Isodecyl Acrylate 2156-97-0, Lauryl acrylate 50974-47-5,
Ethoxylated nonyl Phenol acrylate
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(coating compns. contg.; thermoplastic elastomer coating compns. for
optical fibers and methods for coating the fibers and the coated
fibers)

IT 105729-79-1
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(isoprene-styrene rubber, block, triblock, coating compns. contg.;
thermoplastic elastomer coating compns. for optical fibers and methods
for coating the fibers and the coated fibers)

IT 106107-54-4
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(styrene-butadiene rubber, block, triblock, coating compns. contg.;
thermoplastic elastomer coating compns. for optical fibers and methods
for coating the fibers and the coated fibers)

IT 9003-55-8
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
(Reactant or reagent); USES (Uses)
(styrene-butadiene rubber, hydrogenated, block, triblock, maleated,
coating compns. contg.; thermoplastic elastomer coating compns. for
optical fibers and methods for coating the fibers and the coated
fibers)

REFERENCE 8

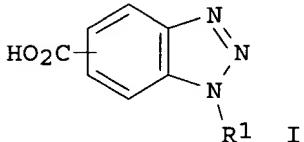
AN 138:161075 CA
TI Photosensitive resin composition for high density and resolution pattern
formation and its usage
IN Fukaya, Takehiro; Itagaki, Katsutoshi
PA Hitachi Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

IC ICM G03F007-085
ICS C08F002-44; C08F291-00; G03F007-033; H05K003-06; H05K003-18
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2003035953 | A2 | 20030207 | JP 2001-221374 | 20010723 |
| PRAI | JP 2001-221374 | | 20010723 | | |

GI



AB The compn. comprises (A) a polymer binder contg. copolymer of styrene and its deriv., (B) a photopolymerizable compd. having ≥ 1 ethylenic unsatd. bond in a mol., (C) a photopolymn. initiator, and (D) carboxybenzotriazole I ($R^1 = H, C \leq 20$ alkyl, aminoalkyl) and/or its deriv. as an additive. Photosensitive element, resist pattern, and printed circuit board formed by using the compn. are also claimed. The compn. shows good adhesion with the substrate and gives high d. and resln. patterns with good chem. and mech. resistance.

ST photoresist styrene polymer binder carboxy benzotriazole deriv; printed circuit board photoresist

IT Photoresists
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT Printed circuit boards
(printed circuit board formed by using photoresist contg. carboxybenzotriazole deriv.)

IT 28263-96-9P, Ethyl acrylate-methacrylic acid-methyl methacrylate-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(binder; photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT 60932-58-3, Carboxybenzotriazole
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT 25035-81-8P, Methacrylic acid-methyl methacrylate-styrene copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

IT 41637-38-1, BPE 1300 50974-47-5, Light Acrylate NP 8EA
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin compn. contg. carboxybenzotriazole deriv.)

REFERENCE 9

AN 138:155128 CA
TI Low modulus, high tensile strength optical fiber coating containing photocurable polymers having a soft oligomer
IN Chou, Kevin Y.; Givens, Steven R.; Schissel, David N.
PA Corning Incorporated, USA
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2

DT Patent
LA English
IC ICM C08G018-67
ICS C09D175-16; C03C025-10; C09D004-06
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 73

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 2003011938 | A1 | 20030213 | WO 2002-US19199 | 20020617 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| PRAI | US 2001-916536 | | 20010727 | | |
| AB | A coating compn. includes at least one oligomer including a polyol soft block having a no.-av. mol. wt. of more than about 4000, and at least one reactive monomer. The cured coating compn. has a tensile strength of at least about 0.85 MPa and a Young's Modulus of less than about 1.3 MPa. The invention further includes an optical fiber having a primary coating layer with the aforementioned coating compn. and a method for coating the optical fiber. Thus, placing Desmodur W 13.12, BHT antioxidant 0.182 and dibutyltin dilaurate 0.188 in a reactor, adding dropwise Acclaim 4200 (PPG diol) 100 to the reactor over 1 h, heating to approx. 80.degree. for 1 h, cooling to approx. 70.degree., adding 2-hydroxyethyl acrylate 5.81 g over 3 min and heating to and at 80.degree. for 2 h gave a reactive oligomer. Mixing the oligomer 52 with Photomer 4003 (macromer) 45 and Irgacure 1850 (photoinitiator) 3%, heating at 50-55.degree. for .gtoreq.8 h, casting on a release paper to a thickness of 5 mils, and irradiating with UV light gave a cured film with refractive index n 1.4790, Young modulus 1.28 MPa, tensile strength 1.39 MPa, elongation 134% and Tg -36.degree.. | | | | |
| ST | urethane acrylic photocurable coating optical fiber high refractive index | | | | |
| IT | Optical fibers (manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers) | | | | |
| IT | Coating materials (photocurable; manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers) | | | | |
| IT | Polyurethanes, uses RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxyalkylene-, acrylate; manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers) | | | | |
| IT | 496051-26-4DP, Acclaim 4200-DesmodurW copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer 496051-31-1DP, Acclaim 4200-4,4'-methylenebis(cyclohexyl isocyanate) copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (coating compn.; manuf. of low modulus, high tensile strength optical fiber coating contg. photocurable polymers) | | | | |
| IT | 818-61-1DP, 2-Hydroxyethyl acrylate, reaction products with polymer isocyanates and macromers 50974-47-5DP, Photomer 4003, reaction products with macromers bearing soft oligomer portions 54398-08-2DP, Photomer 8061, reaction products with macromers bearing soft oligomer portions 496051-34-4P, Photomer 8061-BR 3731 copolymer 496051-38-8DP, Isophorone diisocyanate-polypropylene glycol-PTMG block copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer 496051-41-3DP, Isophorone diisocyanate-propylene oxide-THF block copolymer, reaction products with hydroxyethyl acrylate, copolymers with macromer | | | | |

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of low modulus, high tensile strength optical fiber coating
contg. photocurable polymers)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

- (1) Coady; US 4992524 A CAPLUS
- (2) Dsm; WO 0183393 A CAPLUS
- (3) Dsm; EP 1209132 A CAPLUS
- (4) Dsm; WO 9908975 A CAPLUS
- (5) N V Philips Gloeilampenfabrieken; EP 0167199 A CAPLUS
- (6) Shin-Etsu Chemical; EP 1046619 A 2000 CAPLUS
- (7) Union Carbide; DE 2726041 A CAPLUS

REFERENCE 10

AN 138:144805 CA
TI Optical fibers with a primary coating having a higher degree of cure
IN Baker, Linda S.; Peanasky, John S.
PA Corning Incorporated, USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C03C025-00
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 57

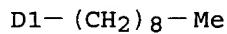
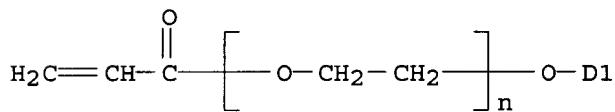
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|----------|------------|-----------------|----------|
| PI | WO 2003008356 | A2 | 20030130 | WO 2002-US15098 | 20020514 |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| | US 2003059188 | A1 | 20030327 | US 2002-86109 | 20020227 |
| PRAI | US 2001-307010P | 20010720 | | | |
| AB | The optical fiber comprises a core; a primary coating substantially encapsulating the fiber, the primary coating being the cured product of a first polymerizable compn. including a first photoinitiator which absorbs light within a range of the UV spectrum; and a secondary coating substantially encapsulating the primary coating on the fiber, the secondary coating being the cured product of a second polymerizable compn. including a second photoinitiator which also absorbs light within the range of the UV spectrum. Bis-acyl-phosphine oxide is used as the first photoinitiator and monoacyl-phosphine oxide as the second one, and a mixt. of oligomers and monomers is used to form the coatings. The av. integrated intensity for the second photoinitiator is 95% or less of the one for the primary photoinitiator over the 360-420 nm range of the UV spectrum. Also disclosed are fiber optic ribbons including the optical fibers, methods for making the optical fibers, and methods of increasing the degree of cure for a primary coating on an optical fiber. | | | | |
| ST | optical fiber curing coating | | | | |
| IT | Coating materials | | | | |
| | Optical absorption | | | | |
| | Optical fibers | | | | |
| | (optical fibers with primary coating having higher degree of cure) | | | | |
| IT | 4420-74-0, 3-Mercaptopropyl trimethoxysilane | | 60354-74-7 | | |
| | RL: MOA (Modifier or additive use); USES (Uses) | | | | |
| | (coating adhesion promoter; optical fibers with primary coating having | | | | |

higher degree of cure)
 IT 41484-35-9, Irganox 1035
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coating antioxidant additive; optical fibers with primary coating
 having higher degree of cure)
 IT 162881-26-7, Irgacure 819
 RL: TEM (Technical or engineered material use); USES (Uses)
 (first photoinitiator; optical fibers with primary coating having
 higher degree of cure)
 IT 947-19-3, Irgacure 184
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photoinitiator; optical fibers with primary coating having higher
 degree of cure)
 IT 50974-47-5, Photomer 4003 305795-12-4, BR 3731
 RL: TEM (Technical or engineered material use); USES (Uses)
 (primary coating component; optical fibers with primary coating having
 higher degree of cure)
 IT 189146-15-4, Lucirin TPO
 RL: TEM (Technical or engineered material use); USES (Uses)
 (second photoinitiator; optical fibers with primary coating having
 higher degree of cure)
 IT 64401-02-1, Photomer 4028 102641-47-4, Photomer 3016 347398-18-9, KWS
 4131
 RL: TEM (Technical or engineered material use); USES (Uses)
 (secondary coating component; optical fibers with primary coating
 having higher degree of cure)
 IT 438208-45-8
 RL: TEM (Technical or engineered material use); USES (Uses)
 (secondary coating; optical fibers with primary coating having higher
 degree of cure)

=> dis str

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS



=> d his

(FILE 'HOME' ENTERED AT 15:25:50 ON 09 JUN 2003)

FILE 'CAPLUS' ENTERED AT 15:25:57 ON 09 JUN 2003
 L1 9 S EPNA
 L2 1 S ETHOXYLATED AND PHENOLACRYLATE

FILE 'REGISTRY' ENTERED AT 15:29:08 ON 09 JUN 2003

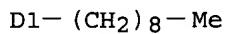
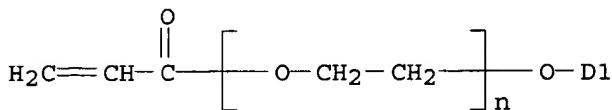
L3

1 S 50974-47-5

L6 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS
AN 2002:894265 CAPLUS
DN 138:346386
TI Development of high-performance normal mode type (polymer/liquid crystal) composite films using UV curable monomers
AU Hasuo, Haruumi; Yamaguchi, Masahiro; Gunjima, Tomoki; Rajesh, Kumar; Yang, Huai; Kimura, Reiko; Amaya, Naoyuki; Kaiya, Norihiro; Kikuchi, Hirotsugu; Kajiyama, Tisato
CS Chem. Textile Res. Inst., Fukuoka Ind. Technol. Cent., Chikushino, 818-8540, Japan
SO Kenkyu Hokoku - Fukuoka-ken Kogyo Gijutsu Senta (2002), Volume Date 2001, 12, 14-17
CODEN: KFKSEH; ISSN: 0916-8230
PB Fukuoka-ken Kogyo Gijutsu Senta
DT Journal
LA Japanese
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38, 75, 76
AB The driving voltage, steepness (.gamma.) and contrast of the titled film are very important elec. optical properties, which depend on the properties of both the liq. crystal and the UV curable monomer used. And to obtain large liq. crystal composite film using rolls, the temp. of polymn. is required to be ca. 40.degree.. By mixing TL213 as liq. crystal, 3,3,5-trimethylhexylacrylate (TMHA) as a monomer and 1,6-hexanedioldivinylether (HDDVE) as a crosslinking reagent; TL213/TMHA/HDDVE = 80/14/6, and polymg. under 40.degree.-50 s/25 mWcm⁻², an excellent film can be obtained: driving voltage 7 V, steepness .gamma. = 1.31, the temp. of transparency T_c = 10.degree..
ST polymer liq crystal composite film photopolymerizable monomer; electrooptical property polymer liq crystal composite film
IT Electrooptical effect
 Liquid crystals, polymeric
 UV radiation
 (development of high-performance normal mode-type polymer/liq crystal composite films using UV curable monomers)
IT 103-11-7DP, 2-Ethylhexyl acrylate, polymer with liq. crystal mixt. 999-61-1DP, 2-Hydroxypropyl acrylate, polymer with liq. crystal mixt. 1070-70-8DP, 1,4-Butanedioldiacrylate, polymer with liq. crystal mixt.
4813-57-4DP, Stearyl acrylate, polymer with liq. crystal mixt. 9004-74-4DP, Methoxy polyethylene glycol, polymer with liq. crystal mixt. 13048-33-4DP, 1,6-Hexanediol diacrylate, polymer with liq. crystal mixt. 26570-48-9DP, Polyethylene glycol diacrylate, polymer with liq. crystal mixt.
29590-42-9DP, Isooctyl acrylate, polymer with liq. crystal mixt. 45125-03-9DP, 3,5,5-Trimethylhexyl acrylate, polymer with liq. crystal mixt.
50974-47-5DP, polymer with liq. crystal mixt.
56641-05-5DP, Phenoxypropylene glycol acrylate, polymer with liq. crystal mixt. 164716-12-5DP, Licrilite TL 205, polymer with 1,4-butanediol diacrylate and lauryl acrylate
336128-50-8DP, 3,5-Difluorobenzyl acrylate, polymer with liq. crystal mixt.
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (development of high-performance normal mode-type polymer/liq crystal composite films using UV curable monomers)
IT 50974-47-5DP, polymer with liq. crystal mixt.
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (development of high-performance normal mode-type polymer/liq

. crystal composite films using UV curable monomers)

RN 50974-47-5 CAPLUS
 CN Poly(oxy-1,2-ethanediyl), .alpha.- (1-oxo-2-propenyl)-.omega.-
 (nonylphenoxy) - (9CI) (CA INDEX NAME)



L6 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:527390 CAPLUS
 DN 129:142698
 TI Polymer-dispersed liquid crystal cell
 IN Sebutoviez, Christoph; Kloosterboer, Johan George; Touwslager, Fredericus Johannes
 PA Koninklijke Philips Electronics N.V., Neth.; Philips Norden AB
 SO PCT Int. Appl., 18 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C09K019-54
 ICS G02F001-1333
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 75

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 9832814 | A1 | 19980730 | WO 1998-IB33 | 19980112 |
| | W: JP | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | EP 889942 | A1 | 19990113 | EP 1998-900029 | 19980112 |
| | EP 889942 | B1 | 20011031 | | |
| | R: DE, FR, GB | | | | |
| | JP 20000508710 | T2 | 20000711 | JP 1998-529174 | 19980112 |
| | US 6306469 | B1 | 20011023 | US 1998-13546 | 19980126 |
| | US 2002045014 | A1 | 20020418 | US 2001-877312 | 20010608 |
| PRAI | EP 1997-200218 | A | 19970128 | | |
| | WO 1998-IB33 | W | 19980112 | | |
| | US 1998-13546 | XX | 19980126 | | |
| AB | The invention provides a method of filling a cell, a polymerizable mixt. suitable for this purpose as well as a display device provided with such a cell. The mixt. in accordance with the invention comprises two types of nonvolatile reactive monomers, the first type of monomer being readily miscible with liq. cryst. material and the second type of monomer being poorly miscible with the liq. cryst. material. Such a mixt. proves to be very stable. In addn., when such a mixt. is used in a cell, problems regarding compositional drift do not occur. A cell in which the inventive mixt. is used demonstrates a relatively low hysteresis as well as relatively low switching voltage. By | | | | |

virtue thereof, it is very attractive to use the cell in a display device.
ST polymer dispersed liq crystal display cell;
polymerizable mixt liq crystal display cell

IT Liquid crystal displays
(polymer-dispersed; polymerizable compns. contg. two types of monomers
for prepn. of)
IT 2156-96-9, Decyl acrylate 2156-97-0, Dodecyl acrylate 3076-04-8,
Tridecyl acrylate 4813-57-4, Octadecyl acrylate 7473-98-5, Darocur
1173 50974-47-5, Ethoxylated nonylphenol acrylate 161107-74-0,
PN393 164716-12-5, TL 205 189146-15-4, Lucirin TPO
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer-dispersed liq.-crystal display cell prepn.
using polymerizable compns. contg.)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

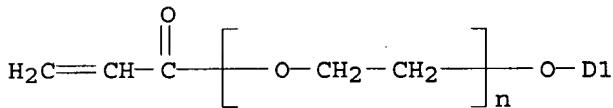
RE

(1) Lucent Technologies Inc; EP 0791641 A1 1997 CAPLUS
(2) Sharp Corporation; EP 0575791 A1 1993 CAPLUS
→ (3) Yasuyuki, T; US 5496497 A 1996 CAPLUS

IT 50974-47-5, Ethoxylated nonylphenol acrylate
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer-dispersed liq.-crystal display cell prepn.
using polymerizable compns. contg.)

RN 50974-47-5 CAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.- (1-oxo-2-propenyl)-.omega.-
(nonylphenoxy) - (9CI) (CA INDEX NAME)



D1- (CH₂)₈-Me

L6 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS

AN 1997:4479 CAPLUS

DN 126:39896

TI Display device using polymer-dispersed liquid crystal
film

IN Abe, Tomya; Konishi, Shiro; Okabe, Masahiro

PA Hitachi Cable, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02F001-1333

ICS C09K019-54; G02F001-137

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reproductive Processes)

Section cross-reference(s): 38, 75

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------|-------|----------|-----------------|----------|
| ----- | ----- | ----- | ----- | ----- |
| PI JP 08220513 | A2 | 19960830 | JP 1995-24112 | 19950213 |

PRAI JP 1995-24112 19950213

AB The device includes a liq. crystal film where liq. crystal drops are dispersed in an aq.-sol. polymer matrix via a film of phenoxyalkylene glycol (meth)acrylate deriv. R1-C6H4-O(R2)n-C(:O)C:CH2R3 (sic.) (R1 = H, alkyl, halo; R2 = ethoxy, isopropoxy; R3 = H, Me; n >= 1). The device can be driven with low elec. voltage and shows low hysteresis.

ST display polymer dispersed liq. crystal film; phenoxy alkylene glycol acrylate dispersed display

IT Liquid crystal displays
(display device using polymer-dispersed liq. crystal film)

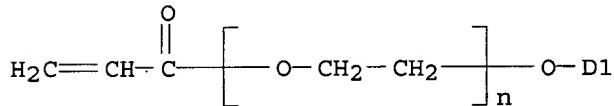
IT 122463-72-3, Poval 205 163663-29-4, TL 204
RL: DEV (Device component use); USES (Uses)
(display device using polymer-dispersed liq. crystal film)

IT 34962-82-8P, NK ESTER AMP-10G homopolymer 50974-47-5P
71926-19-7P 112025-90-8P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(display device using polymer-dispersed liq. crystal film)

IT 50974-47-5P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(display device using polymer-dispersed liq. crystal film)

RN 50974-47-5 CAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-(nonylphenoxy) - (9CI) (CA INDEX NAME)



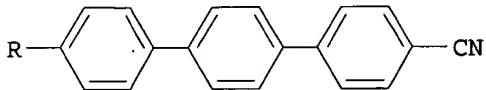
D1- (CH₂)₈-Me

L6 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS
 AN 1995:773279 CAPLUS
 DN 123:301642
 TI High-contrast liquid crystal display device
 IN Tsucha, Yutaka; Chino, Eiji; Kobayashi, Hidekazu; Yazaki, Masayuki; Iizaka, Hideto
 PA Seiko Epson Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G02F001-1333
 ICS C08F020-28; G02F001-13
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

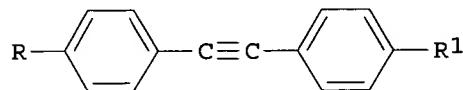
Section cross-reference(s): 38, 75

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|----------|
| PI JP 07159765 | A2 | 19950623 | JP 1993-310786 | 19931210 |
| PRAI JP 1993-310786 | | 19931210 | | |
| GI | | | | |



I



II

AB The display device, which can retain the indicating state without an elec. field, comprises dispersed chiral nematic liq. crystals and a polymer whose precursor is CH₂:C(X)C(:O)OY or CH₂:C(X)C(:O)OYOC(:O)C(X'):CH₂ (X, X' = H, Me; Y = alkyl, alkyl ether). The polymer precursor may have an arom. ring in the chains. The liq. crystal may contain I or II (R, R' = alkyl, alkyl ether).

ST display device chiral nematic liq crystal; acrylic polymer display device

IT **Liquid crystals**
(cholesteric, high-contrast liq. crystal display device contg. acrylic polymers)

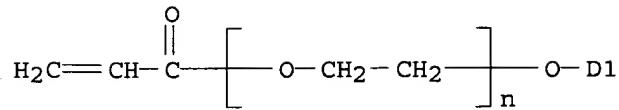
IT Optical imaging devices
(liq.-crystal, high-contrast liq. crystal display device contg. acrylic polymers)

IT 26570-48-9, Aronix M 245 36007-59-7 **50974-47-5**, Aronix M 111
62722-22-9, Aronix M 120 117931-68-7, Aronix M 101 homopolymer
123504-05-2, Aronix M 6200 homopolymer 169217-00-9 169217-01-0
169526-50-5
RL: DEV (Device component use); USES (Uses)
(high-contrast liq. crystal display device contg. acrylic polymers)

IT **50974-47-5**, Aronix M 111
RL: DEV (Device component use); USES (Uses)
(high-contrast liq. crystal display device contg. acrylic polymers)

RN 50974-47-5 CAPPLUS

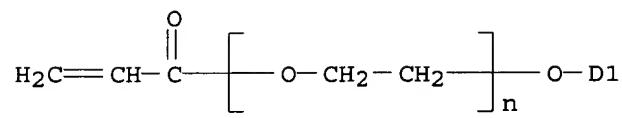
CN Poly(oxy-1,2-ethanediyl), .alpha.- (1-oxo-2-propenyl)-.omega.- (nonylphenoxy) - (9CI) (CA INDEX NAME)



D1—(CH₂)₈—Me

L6 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS
 AN 1994:42058 CAPLUS
 DN 120:42058
 TI Projection type liquid-crystal display device
 IN Yazaki, Masayuki
 PA Seiko Epson Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G02F001-1333
 ICS C08F220-30; C08F299-02; G02F001-133; G02F001-136; H04N005-74
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 05019240 | A2 | 19930129 | JP 1991-172117 | 19910712 |
| PRA1 | JP 1991-172117 | | 19910712 | | |
| AB | In the title display device comprising a liq.-crystal display element in which a liq. crystal is enclosed between 2 electrode-bearing transparent substrates, a projection light source, and a projection optical system, the above liq. crystal is based on a polymer-dispersed liq. crystal film in which a nematic liq. crystal is dispersed in a polymer matrix. The display device can produce images with high brightness and contrast. | | | | |
| ST | projection polymer dispersed liq. crystal display | | | | |
| IT | Optical imaging devices (electrooptical liq.-crystal, projection type, polymer-dispersed liq. crystal layers for) | | | | |
| IT | 50974-47-5 88922-69-4, Aronix M 6200 | | | | |
| | RL: USES (Uses) (polymer-dispersed liq. crystal layers contg.) | | | | |
| IT | 50974-47-5 | | | | |
| | RL: USES (Uses) (polymer-dispersed liq. crystal layers contg.) | | | | |
| RN | 50974-47-5 CAPLUS | | | | |
| CN | Poly(oxy-1,2-ethanediyl), .alpha.- (1-oxo-2-propenyl)-.omega.- (nonylphenoxy) - (9CI) (CA INDEX NAME) | | | | |



D1—(CH₂)₈—Me